QC ABSTRACT

NAME OF WORK: Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli

SL NO	Item Of Work	Name of Test	Frequency of Test/Quantity	Executed Quantity	Number of Tests Required	Number of Tests Conducted
		Materials				
1	Cement	Fineness by dry sieving	One Test		1	1
		Finess by Air permeablity method	One Test		1	1
		Density	One Test		1	1
		Standard Consistency	One Test		1	1
		Initial Setting time	One Test		1	1
		Final Setting time	One Test		1	1
		Soundness (Le Chatelier's Method)	One Test		1	1
		Compressive Strength	One Test		1	1
2	Coarse aggregate(40 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
3	Coarse aggregate(20 mm down size)	SIEVE ANALYSIS	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		Specific Gravity	One Test		1	1
		Bulk Density(Loose)	One Test		1	1
		Bulk Density(Compacted)	One Test		1	1
		Water Absorption	One Test		1	1
		Aggregate crushing Value	One Test		1	1
		Aggregate Impact Value	One Test		1	1
4	Fine aggregate	SIEVE ANALYSIS	One Test		1	1
		Water Absorption	One Test		1	1
		Specific Gravity	One Test		1	1
		Material finer than 75 micron	One Test		1	1
5	Steel	Bend test	One Test		1	1
		Tensile Test	One Test		1	1
		Yield Test	One Test		1	1
		ReBend test	One Test		1	1
6	KERB	Core Compressive strength	One Test		1	1
		Corrected Cylinder Compressive strength	One Test		1	1
		Equivalent Cube Compressive strength	One Test		1	1
7	Precast (100mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1

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8	Precast (230mm)	Core Compressive Strength	One Test		1	1
		Corrected Cylinder Compressive Strength	One Test		1	1
		Equivalent Cube Compressive Strength	One Test		1	1
9	RCC(M20)	Compressive Strength(7days and 28days)	4 sets /31-50 cum	33.22	8	8
10	WMM	Sieve Analysis	One Test		1	1
		Impact Value	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
11	DBM	SIEVE ANALYSIS	One Test		1	1
		STRIPPING VALUE	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral Aggregate	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
12	BC	SIEVE ANALYSIS	One Test		1	1
		STRIPPING VALUE	One Test		1	1
		Flakiness Index	One Test		1	1
		Elongation Index	One Test		1	1
		IMPACT VALUE	One Test		1	1
		Specific gravity	One Test		1	1
		Water Absorption	One Test		1	1
		Marshal Stability	One Test		1	1
		Marshal flow	One Test		1	1
		Percent air Voids	One Test		1	1
		Percent Voids in mineral	One Test		1	1
		Percent Voids filled with Bitumen	One Test		1	1
		Density	One Test		1	1
		Gradation	One Test		1	1
13	BITUMEN	Ductility	One Test		1	1
		Softening Point	One Test		1	1
		Penetration	One Test		1	1
		Flash Point	One Test		1	1
		Fire Point	One Test		1	1
14	TACK COAT	Rate of spread	One Test		1	1

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2023-10-11-04** **Date: 30-03-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	27-03-23
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 269:2015 Ordinary Portland cement Specification , IS 4031 (Part 4,5):1988 IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4 4 IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability Method, Clause 5 IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6 IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time, Clause 5 IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6
Date of test	:	28-03-23
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 269:2015
1	Fineness by dry sieving (%)	1.75	–
2	Finess by Air permeablity method (m^2/kg,Min)	281.4	225m^2/kg, Min
3	Density (gm/cc)	3.14	–
4	Standard Consistency (%)	29.5%	Not specified
5	Initial Setting time	155 minutes	Not less than 30 minutes
6	Final Setting time	285 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	2mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

Note:

The results pertain to the samples received and tested.

All information furnished by Agency/Representative

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Authorized Signatory
Quality Manager

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Date: 25-04-23

Lab ID	:	**CP-2023-10-11-04**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	27-03-23
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 269:2015 Ordinary Portland cement Specification , IS 4031 (Part 4,5):1988 IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, (RA 2019) Determination of Compressive Strength, Clause 6
Date of test	:	28-03-23
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 269:2015
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	58.5N/mm^2	Not less than 53 N/mm^2

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Assistant Executive Engineer
Kodigehalli Sub Division
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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2023-10-11-04** **Date: 30-03-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	27-03-23
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	27-03-23

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	214	214	1.4	98.6	90-100
3	20 mm	7254	7468	49.8	50.2	30-70
4	10 mm	4442	11910	79.4	20.6	10-35
5	4.75 mm	2685	14595	97.3	2.7	0-5
6	Pan	405	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2023-10-11-04** **Date: 30-03-23**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	10.6	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	12.3	
3	Specific Gravity	2.64	–
4	Bulk Density(Loose) (Kg/l)	1.49	–
5	Bulk Density(Compacted) (Kg/l)	1.52	–
6	Water Absorption(%)	0.17	–

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Quality Manager

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Kodigehalli Sub Division
BBMP, Bangalore

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2023-10-11-04** **Date: 29-03-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	27-03-23
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids, Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	27-03-23

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	240	240	4.8	95.2	90-100
3	10 mm	2567	2807	56.1	43.9	25-55
4	4.75 mm	2030	4837	96.7	3.3	0-10
5	Pan	163	5000	100	0	–

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2023-10-11-04** **Date: 29-03-23**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	9.8	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	10.3	
3	Specific Gravity	2.65	–
4	Bulk Density(Loose) (Kg/l)	1.5	–
5	Bulk Density(Compacted) (Kg/l)	1.52	–
6	Water Absorption(%)	0.23	–
7	Aggregate crushing Value(%)	22.7	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	24.6	30% for Aggregates to be used in concrete for wearing Surface. 45% for Aggregates to be used in concrete other than for wearing Surface.

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BBMP, Bangalore

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Quality Manager

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TEST REPORT OF FINE AGGREGATE

Date: 29-03-23

Lab ID	:	**CP-2023-10-11-04**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	27-03-23
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS 383 : 2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1, 3) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	27-03-23
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	78	78	7.8	92.2	90-100	90-100	90-100	95-100
3	2.36 mm	65	143	14.3	85.7	60-95	75-100	85-100	95-100
4	1.18 mm	244	387	38.7	61.3	30-70	55-90	75-100	90-100
5	600 micron	215	602	60.2	39.8	15-34	35-59	60-79	80-100
6	300 micron	178	780	78.0	22.0	5-20	8-30	12-40	15-50
7	150 micron	141	921	92.1	7.9	0-10	0-10	0-10	0-15
8	Pan	79	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2023-10-11-04** **Date: 29-03-23**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.5	–
2	Specific Gravity	2.59	–
3	Material finer than 75 micron(%)	7.9	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF STEEL

Lab ID	:	**CP-2023-10-11-04** **Date: 28-03-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	27-03-23
Sample Type	:	Sunvik
Reference to BIS codes	:	IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2019.
Date of test	:	27-03-23

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	Sunvik	Fe500	8	0.391	512	652	20.0%	Satisfactory	Satisfactory
2	Sunvik	Fe500	10	0.616	528	672	20.0%	Satisfactory	Satisfactory
3	Sunvik	Fe500	12	0.888	544	668	20.0%	Satisfactory	Satisfactory

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TEST REPORT OF PRECAST COVER SLAB

Date: 11-04-23

Lab ID	:	**CP-2023-10-11-04**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	07-04-23
Sample Type /Size	:	Precast Cover Slab -100mm thick
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete
Date of test	:	07/04/2023
Grade of Slab	:	M15

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	77.51	150.48	2.164	4718	80.9	17.1	15.9	19.9
2	Cover Slab-2	77.49	150.52	2.188	4715	82.3	17.5	16.2	20.3
3	Cover Slab-3	77.47	150.51	2.143	4713	81.5	17.3	16.1	20.1

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TEST REPORT OF PRECAST COVER SLAB

Lab ID	:	**CP-2023-10-11-04** **Date: 11-04-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	07-04-23
Sample Type /Size	:	Precast Cover Slab -100mm thick
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete
Date of test	:	07/04/2023
Grade of Slab	:	M15

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	77.51	150.48	2.164	4718	80.9	17.1	15.9	19.9
2	Cover Slab-2	77.49	150.52	2.188	4715	82.3	17.5	16.2	20.3
3	Cover Slab-3	77.47	150.51	2.143	4713	81.5	17.3	16.1	20.1

* The results obtained are satisfactory as per standard requirements.

Note:

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig Date BANGALORE

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Authorized Signatory
Quality Manager

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Format No: CP/TF/01

TEST REPORT OF PRECAST COVER SLAB

Date: 11-04-23

Lab ID	:	**CP-2023-10-11-04**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	07-04-23
Sample Type /Size	:	Precast Cover Slab -230mm thick
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete
Date of test	:	07/04/2023
Grade of Slab	:	M15

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	(kg)	(Sq.mm)	(KN)	(N/mm^2)	(N/mm^2)	(N/mm^2)
1	Cover Slab-1	77.48	230.52	2.853	4714	80.9	17.2	16.0	20.0
2	Cover Slab-2	77.52	230.47	2.876	4719	82.3	17.4	16.2	20.3
3	Cover Slab-3	77.50	230.49	2.819	4716	81.5	17.3	16.1	20.1

* The results obtained are satisfactory as per standard requirements.

Note:

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Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig. Date BANGALORE

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R KARTHIK RECHAN
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Quality Manager

****End of Report****

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE KERB STONE

Date: 11-04-23

Lab ID	:	CP-2023-10-11-04
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	07-04-23
Sample Type /Size	:	CC Kerb Stone/ 450*165*400mm
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete
Date of test	:	07/04/2023
Grade of Kerb	:	M15

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	Kg	(Sq.mm)	(KN)	(N/mm2)	(N/mm2)	(N/mm2)
1	A	77.49	165.51	2.368	4715	142.1	30.1	30.1	37.7
2	B	77.53	165.49	2.379	4720	145.2	30.8	30.8	38.4
3	C	77.47	165.50	2.318	4713	145.1	30.8	30.8	38.5

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Quality Manager

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-10-11-04** **Date: 13/04/2023**

Customer : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

Address : Kodigehalli Sub Division, BBMP, Bangalore.

Project Name : Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli

Agency : Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/188/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 08-04-23

Customer ID : Drain Bottom Raft Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 13/04/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete	M20	06/04/2023	13/04/2023	150.92 X 150.69 X 150.48	22742	8.829	330.2	14.5	14.7
2	Drain Bottom Raft Concrete	M20	06/04/2023	13/04/2023	150.94 X 150.65 X 150.80	22740	8.740	333.5	14.7	
3	Drain Bottom Raft Concrete	M20	06/04/2023	13/04/2023	150.56 X 150.35 X 150.51	22637	8.699	334.8	14.8	

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Quality Manager

Page 1 of 1
****End of Report****

Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-10-11-04** **Date: 04/05/2023**

Customer : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

Address : Kodigehalli Sub Division, BBMP, Bangalore.

Project Name : Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli

Agency : Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/188/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 08-04-23

Customer ID : Drain Bottom Raft Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 04/05/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete	M20	06/04/2023	04/05/2023	150.77 X 150.32 X 150.30	22664	8.418	530.3	23.4	23.4
2	Drain Bottom Raft Concrete	M20	06/04/2023	04/05/2023	150.27 X 150.64 X 150.11	22636	8.789	534.8	23.6	
3	Drain Bottom Raft Concrete	M20	06/04/2023	04/05/2023	150.89 X 150.14 X 150.15	22654	8.528	525.1	23.2	

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Date: 13/04/2023

Lab ID	:	**CP-2023-10-11-04**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	08-04-23
Customer ID	:	Drain Bottom Raft Concrete
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M20 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5
Date of test	:	13/04/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete	M20	06/04/2023	13/04/2023	150.17 X 150.17 X 150.51	22551	8.632	328.2	14.6	14.5
2	Drain Bottom Raft Concrete	M20	06/04/2023	13/04/2023	150.11 X 150.99 X 150.82	22664	8.744	323.6	14.3	
3	Drain Bottom Raft Concrete	M20	06/04/2023	13/04/2023	150.09 X 150.26 X 150.93	22552	8.616	330.8	14.7	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-10-11-04** **Date: 04/05/2023**

Customer : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

Address : Kodigehalli Sub Division, BBMP, Bangalore.

Project Name : Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli

Agency : Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/188/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 08-04-23

Customer ID : Drain Bottom Raft Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 04/05/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Raft Concrete	M20	06/04/2023	04/05/2023	150.77 X 150.93 X 150.20	22756	8.592	534.4	23.5	23.6
2	Drain Bottom Raft Concrete	M20	06/04/2023	04/05/2023	150.63 X 150.04 X 150.20	22600	8.380	540.3	23.9	
3	Drain Bottom Raft Concrete	M20	06/04/2023	04/05/2023	150.39 X 150.41 X 150.93	22621	8.778	526.4	23.3	

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-10-11-04** **Date: 17/04/2023**

Customer : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

Address : Kodigehalli Sub Division, BBMP, Bangalore.

Project Name : Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli

Agency : Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097

Customer's Reference : BBMP/EE/BTP/WO/188/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 12-04-23

Customer ID : Drain Side Wall Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 17/04/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete	M20	10/04/2023	17/04/2023	150.59 X 150.97 X 150.78	22736	8.148	334.3	14.7	14.6
2	Drain Side Wall Concrete	M20	10/04/2023	17/04/2023	150.61 X 150.20 X 150.76	22622	8.516	336.5	14.9	
3	Drain Side Wall Concrete	M20	10/04/2023	17/04/2023	150.01 X 150.42 X 150.37	22564	8.274	320.2	14.2	

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Kodigehalli Sub Division
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Quality Manager

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	**CP-2023-10-11-04** **Date: 08/05/2023**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	12-04-23
Customer ID	:	Drain Side Wall Concrete
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M20 / 28 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5
Date of test	:	08/05/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete	M20	10/04/2023	08/05/2023	150.77 X 150.76 X 150.80	22729	8.684	529.6	23.3	23.2
2	Drain Side Wall Concrete	M20	10/04/2023	08/05/2023	150.09 X 150.52 X 150.42	22591	8.757	527.5	23.3	
3	Drain Side Wall Concrete	M20	10/04/2023	08/05/2023	150.98 X 150.12 X 150.98	22665	8.421	522.7	23.1	

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	**CP-2023-10-11-04** **Date: 17/04/2023**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	12-04-23
Customer ID	:	Drain Side Wall Concrete
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M20 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5
Date of test	:	17/04/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete	M20	10/04/2023	17/04/2023	150.58 X 150.06 X 150.11	22596	8.868	317.2	14.0	14.5
2	Drain Side Wall Concrete	M20	10/04/2023	17/04/2023	150.69 X 150.21 X 150.11	22636	8.634	338.1	14.9	
3	Drain Side Wall Concrete	M20	10/04/2023	17/04/2023	150.70 X 150.70 X 150.38	22710	8.917	332.2	14.6	

* The results obtained are satisfactory as per standard requirements.

Note:

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Kodigehalli Sub Division
BBMP, Bangalore

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	**CP-2023-10-11-04** **Date: 08/05/2023**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	12-04-23
Customer ID	:	Drain Side Wall Concrete
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M20 / 28 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5
Date of test	:	08/05/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete	M20	10/04/2023	08/05/2023	150.39 X 150.91 X 150.63	22697	8.445	527.4	23.2	23.6
2	Drain Side Wall Concrete	M20	10/04/2023	08/05/2023	150.20 X 150.72 X 150.41	22638	8.283	536.4	23.7	
3	Drain Side Wall Concrete	M20	10/04/2023	08/05/2023	150.10 X 150.15 X 150.74	22538	8.944	538.9	23.9	

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Note:

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2023-10-11-04** **Date: 17-04-23**

Customer : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

Address : Kodigehalli Sub Division, BBMP, Bangalore.

Project Name : Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli

Agency : Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/188/2022-23

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 15-04-23

Type of Mix : WMM (Wet Mix Macadam)

Date of Test : 15-04-23

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	315	315	2.9	97.1	95-100
22.4	2259	2574	23.4	76.6	60-80
11.2	2179	4753	43.2	56.8	40-60
4.75	2251	7004	63.7	36.3	25-40
2.36	1621	8625	78.4	21.6	15-30
0.6	623	9248	84.1	15.9	8-22
0.075	1338	10586	96.2	3.8	0-5

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

End of Report

CIVIL Pro Sig. Date. BANGALORE

FOR CIVIL Pro.
R KARTHIK RECHAN
Authorized Signatory
Quality Manager

TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	CP-RW-2023-10-11-04	Date: 17-04-23
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.	
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli	
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	15-04-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of Test	:	15-04-23	

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.9	74.0
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	225.9	225.8
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.4
5	Aggregate impact value	(B/A)*100	24.6	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	24.6	

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Kodigehalli Sub Division
BBMP, Bangalore

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End of Report

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2023-10-11-04**	**Date: 17-04-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.	
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli	
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	15-04-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of Test	:	15-04-23	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.8%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.5%	
Combined Flakiness and Elongation Index for WMM	25.3%	

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Kodigehalli Sub Division
BBMP, Bangalore

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Format No: CP/TF/01

TEST REPORT ON BITUMEN

Lab ID	:	**CP-RW-2023-10-11-04** **Date: 24-04-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer's Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	20-04-23
Sample Type	:	Bitumen
Reference to BIS codes	:	IS: 1201-2021, IS: 1202-1220(1978) (Reaffirmed-2019)
Date of Test	:	20-04-23

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	**64**	Min 45mm
2	Softening Point, °C	**51.4**	Min. 47°C
3	Ductility, cm	**99**	Min. 40cm
4	Flash point, °C	**280**	Min. 220°C
	Fire point, °C	**292**	

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Authorized Signatory
Quality Manager

****End of Report****

TEST RESULTS OF GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-10-11-04**	**Date: 28-04-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.	
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli	
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	26-04-23	
Type of Mix	:	DBM-Plant (Dense Bituminous Macadam)	
Date of Test	:	26-04-23	
Weight of Sample	:	5000 Grams	

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10 (grading -2)
37.5	0	0	0	100	100
26.5	250	250	5.00	95.00	90-100
19	350	600	12.00	88.00	71-95
13.2	450	1050	21.00	79.00	56-80
4.75	1750	2800	56.00	44.00	38-54
2.36	400	3200	64.00	36.00	28-42
0.3	1350	4550	91.00	9.00	7-21
0.075	250	4800	96.00	4.00	2-8
PAN	200	5000	0.00	0	0

* The results obtained are satisfactory as per standard requirements.

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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR DENSE BITUMINOUS MACADAM

Lab ID	:	**CP-RW-2023-10-11-04** **Date: 29-04-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	26-04-23
Type of Mix	:	DBM (Dense Bituminous Macadam)
Date of Test	:	26-04-23

Table 500-6 : Physical Requirements fo Coarse Aggregate for Dense Bituminous Macadam

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	9.0	Combined Flakiness & Elongation Index for DBM is Maximum 35%	IS:2386 Part I
	Elongation Index	13.0		
Strength	Aggregate Impact Value	21.0	Maximum 27%	IS:2386 Part IV
Specific gravity	Specific gravity	2.58	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.38	Maximum 2%	IS:2386 Part III

* The results obtained are satisfactory as per standard requirements.

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2023-10-11-04** **Date: 29-04-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	26-04-23
Type of Mix	:	DBM (Dense Bituminous Mecadam)
Date of Test	:	26-04-23

The results of the tests conducted on the Dense Bituminous Macadam mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.29	11.82	9KN(Min)
2	Marshal flow at 60°C, mm	3.54	3.87	2-4
3	Percent air Voids	4.56	4.17	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.54	14.76	13-15
5	Percent Voids filled with Bitumen(VFB %)	68.98	70.28	65-75
6	Density, g/cc	2.42	2.40	–

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2023-10-11-04** **Date: 29-04-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	26-04-23
Type of Mix	:	DBM(Dense Bitumnous Macadam)
Date of Test	:	26-04-23

Type of Binder	:	60/70
% of Binder Used	:	4.5%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	9.0 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.0	2.0	98.2	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

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Kodigehalli Sub Division
BBMP, Bangalore

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Quality Manager

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-10-11-04**	**Date: 09-05-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.	
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli	
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23	
Source of Sample	:	Sample supplied by Agency	
Date of Receipt	:	08-05-23	
Type of Mix	:	DBM (Dense Bituminous Macadam)	
Date of Test	:	08-05-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	479	479.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	4.6	4.50
7	Average percentage	%	4.55	

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

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Lab ID : CP-RW-2023-10-11-04 **Date: 09-05-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0.0	100.0	100
26.5	22	22	4.6	95.4	90-100
19	58	80	16.7	83.3	71-95
13.2	53	133	27.8	72.2	56-80
4.75	140	273	57.0	43.0	38-54
2.36	64	337	70.4	29.6	28-42
0.3	74	411	85.8	14.2	7-21
0.075	45	456	95.2	4.8	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0.0	100.0	100
26.5	24	24	5.0	95.0	90-100
19	80	104	21.7	78.3	71-95
13.2	82	186	38.8	61.2	56-80
4.75	105	291	60.7	39.3	38-54
2.36	40	331	69.0	31.0	28-42
0.3	91.5	422.5	88.1	11.9	7-21
0.075	38	460.5	96.0	4.0	2-8

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BBMP, Bangalore

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-10-11-04**	**Date: 09-05-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.	
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli	
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23	
Date of Receipt	:	08-05-23	
Type of Mix	:	DBM (Dense Bituminous Macadam)	
Date of Test	:	08-05-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	479	479.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.6	4.50
7	Average percentage	%	4.55	

Assistant Executive Engineer
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Quality Manager

Lab ID : CP-RW-2023-10-11-04 **Date: 09-05-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0.0	100.0	100
26.5	22	22	4.6	95.4	90-100
19	58	80	16.7	83.3	71-95
13.2	53	133	27.8	72.2	56-80
4.75	140	273	57.0	43.0	38-54
2.36	64	337	70.4	29.6	28-42
0.3	74	411	85.8	14.2	7-21
0.075	45	456	95.2	4.8	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0.0	100.0	100
26.5	24	24	5.0	95.0	90-100
19	80	104	21.7	78.3	71-95
13.2	82	186	38.8	61.2	56-80
4.75	105	291	60.7	39.3	38-54
2.36	40	331	69.0	31.0	28-42
0.3	91.5	422.5	88.1	11.9	7-21
0.075	38	460.5	96.0	4.0	2-8

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BBMP, Bangalore

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Quality Manager

TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2023-10-11-04**	**Date: 04-05-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.	
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli	
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	02-05-23	
Type of Mix	:	BC-Plant (Bituminous Concrete)	
Date of Test	:	02-05-23	
Oven Dry Weight	:	5000	Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	89	89	1.8	98.2	90-100
9.5	702	791	15.8	84.2	70-88
4.75	895	1686	33.7	66.3	53-71
2.36	587	2273	45.5	54.5	42-58
1.18	492	2765	55.3	44.7	34-48
0.6	503	3268	65.4	34.6	26-38
0.3	528	3796	75.9	24.1	18-28
0.15	458	4254	85.1	14.9	12-20
0.075	350	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

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Samples will be disposed after 30 days from the date of issue of test certificate

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

CIVIL Pro Sig Date BANGALORE

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2023-10-11-04**	**Date: 05-05-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.	
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli	
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	02-05-23	
Type of Mix	:	BC(Bitumenous Concrete)	
Date of Test	:	02-05-23	

Type of Binder	:	60/70
% of Binder Used	:	5.4%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.8 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.5	1.5	98.3	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

* The results obtained are satisfactory as per standard requirements.

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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID	:	**CP-RW-2023-10-11-04**	**Date: 05-05-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.	
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli	
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	02-05-23	
Type of Mix	:	BC (Bituminous Concrete)	
Date of Test	:	02-05-23	

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.4	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.8		
Strength	Aggregate Impact Value	22.1	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.68	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.21	Maximum 2%	IS:2386 Part III

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2023-10-11-04**	**Date: 05-05-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.	
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli	
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23	
Source of Sample	:	Hot Mix Plant, Bangalore	
Sample Condition	:	Satisfactory	
Date of Receipt	:	02-05-23	
Type of Mix	:	BC (Bituminous Concrete)	
Date of Test	:	02-05-23	

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.14	11.13	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.51	2-4
3	Percent air Voids	4.82	4.83	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.26	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	71.63	65-75
6	Density, g/cc	2.25	2.26	–

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-10-11-04 **Date: 11-05-23**

Customer : Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.

Address : Kodigehalli Sub Division, BBMP, Bangalore.

Project Name : Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli

Agency : Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097

Customer Reference : BBMP/EE/BTP/WO/188/2022-23

Date of Receipt : 09-05-23

Type of Mix : BC (Bituminous Concrete)

Date of Test : 09-05-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.40	5.50
7	Average percentage	%	5.45	

Assistant Executive Engineer
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Lab ID : CP-RW-2023-10-11-04 **Date: 11-05-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	66	72	15.2	84.8	70-88
4.75	113	185	38.9	61.1	53-71
2.36	84	269	56.6	43.4	42-58
1.18	31	300	63.2	36.8	34-48
0.6	13	313	65.9	34.1	26-38
0.3	47	360	75.8	24.2	18-28
0.15	43	403	84.8	15.2	12-20
0.075	45	448	94.3	5.7	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	8	8	1.7	98.3	90-100
9.5	68	76	16.0	84.0	70-88
4.75	114	190	40.0	60.0	53-71
2.36	74	264	55.6	44.4	42-58
1.18	33	297	62.6	37.4	34-48
0.6	15	312	65.8	34.2	26-38
0.3	49	361	76.1	23.9	18-28
0.15	46	407	85.8	14.2	12-20
0.075	43	450	94.8	5.2	4-10

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	**CP-RW-2023-10-11-04**	**Date: 11-05-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.	
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli	
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097	
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23	
Source of Sample	:	Sample supplied by Agency	
Date of Receipt	:	09-05-23	
Type of Mix	:	BC (Bituminous Concrete)	
Date of Test	:	09-05-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.40	5.50
7	Average percentage	%	5.45	

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Lab ID : **CP-RW-2023-10-11-04** **Date: 11-05-23**

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	66	72	15.2	84.8	70-88
4.75	113	185	38.9	61.1	53-71
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0.6	13	313	65.9	34.1	26-38
0.3	47	360	75.8	24.2	18-28
0.15	43	403	84.8	15.2	12-20
0.075	45	448	94.3	5.7	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	8	8	1.7	98.3	90-100
9.5	68	76	16.0	84.0	70-88
4.75	114	190	40.0	60.0	53-71
2.36	74	264	55.6	44.4	42-58
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0.6	15	312	65.8	34.2	26-38
0.3	49	361	76.1	23.9	18-28
0.15	46	407	85.8	14.2	12-20
0.075	43	450	94.8	5.2	4-10

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End of Report

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID	:	**CP-RW-2023-10-11-04** **Date: 11-05-23**
Customer	:	Assistant Executive Engineer, Kodigehalli Sub Division, BBMP, Bangalore.
Address	:	Kodigehalli Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains in various cross roads of Devinagara, Lottegolahalli and surrounding areas in ward no.12 - Kodigehalli
Agency	:	Sri. Abbu Sambasiva Reddy, No:1 B3 Sree Arcade Layout, 4th Block, Ramachandrapura, Bengaluru-560097
Customer Reference	:	BBMP/EE/BTP/WO/188/2022-23
Sample Condition	:	Satisfactory
Date of Receipt	:	09-05-23
Type of Mix	:	Tack coat
Date of Test	:	09-05-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

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